

CHAPTER TWO

EXECUTIVE SUMMARY

PURPOSE

The Carbon County Land Use Plan is a regional land use plan document that provides a general vision for the future development of the unincorporated areas of Carbon County, Wyoming. The Land Use Plan is intended to provide a useful reference that will support future land use decisions by the Carbon County Planning Commission and the Carbon County Board of County Commissioners.

The land use decisions that are made by the Carbon County Planning Commission and the Carbon County Board of County Commissioners frequently involve the use of personal discretion. The 1972 Zoning Resolution and County subdivision regulations often do not address issues that may be relevant to a specific land use decision. For this reason, a regional vision is needed to help bring into focus a desired development pattern for the County, anticipated types of future land uses, the potential location of future population and economic growth, as well as the concerns and priorities of Carbon County residents. Such information will assist members of the County Planning Commission and the Board of County Commissioners as they review and evaluate future land use decisions.

Land use proposals that are contained in the Land Use Plan promote a general development concept for Carbon County. However, such recommendations will not be used by the Carbon County Planning Commission to independently rezone various properties throughout the County.

A second function of the Land Use Plan is to articulate the County's position concerning land uses on federal and State lands. Various federal and State agencies regularly prepare plans and make decisions that impact the environment, economy, and infrastructure of Carbon County. While only selected federal and State agencies have the statutory authority for land and resource management of public lands, these agencies regularly ask Carbon County to comment upon proposed resource management plans, specific land uses on public lands, and other land use decisions.

The Land Use Plan is also provided to bring guidance to federal and State agencies concerning their approach and orientation to the future implementation of resource management programs, and their coordination with appropriate County agencies and other affected interests. These recommendations are provided to enhance future coordination with federal and State agencies that administer programs in Carbon County.

The third purpose of the Land Use Plan is to provide the ten municipalities within Carbon County with the County's vision concerning future land uses and a possible development pattern in the unincorporated areas of the County. The County also desires to share its views concerning potential economic and population expansion. In a cumulative sense, this information should help municipalities better evaluate short and long term improvements to municipal utilities and other public facilities.

COMMUNITY ISSUES AND PRIORITIES

The three surveys and 12 public meetings provided the Carbon County Planning Commission and Board of County Commissioners with a significant list of concerns and issues that are relevant to the Carbon County Land Use Plan. The substantive response and participation of Carbon County residents clearly indicates the concern of local residents and their commitment to the Land Use Plan process. The documentation and review of resident responses and insights point to various areas of community concern. These concerns are summarized and described more fully in Chapter Three, Community Issues and Priorities.

THE ECONOMY

The Economic Base of Carbon County

General

The economic base of Carbon County includes the following economic activities:

- Agriculture
- Underground and surface coal mining
- Oil and gas production, processing, and product transportation
- Timber harvesting and production
- Transportation (UP Railroad, truck stops, and trucking companies)
- Visitor Industry
- Government

Agriculture relies upon renewable land resources and surface water resources for the production of livestock, hay, and other agricultural commodities. The lack of surface water supplies, ground vegetation, and other variable environmental conditions require the industry's use of extensive rangelands to support appropriate livestock management and related resource conservation activities.

The coal mining industry is reliant upon the non-renewable coal resources that are located in various parts of Carbon County, e.g., deposits in the Hanna Basin. The use of federal, State and County road networks is essential to gain access to the resource. The production and transportation of coal resources to various markets are also dependent upon the Union Pacific rail corridor.

The oil and gas industry uses available oil and gas reserves within the County. Known reserves are primarily located in the Washakie and Great Divide basins. The production and transportation of these resources is dependent upon an important product processing and transportation system that lies along the Union Pacific rail and Interstate 80 corridors.

The timber industry is based upon the availability of renewable timber resources from forested areas of the County, as well as other private, State, and national forest areas within a 300 mile radius of Saratoga. The industry relies upon the use of federal, State, and County roads to gain access to timber resources and to transport harvested timber to production centers in Encampment, Saratoga, and Medicine Bow.

Transportation is the economic hub or link for all economic activities in the regional economy. The Union Pacific rail corridor, Interstate 80, State highways, and County roads provide access to natural resources, a transportation corridor for products that are developed and exported from the Carbon County economy, interstate commerce, international trade, and various vehicular access points for incoming visitors.

The visitor industry is an emerging economic activity that contributes seasonal inputs to the economy. This industry helps "fill" economic downturns and cycles that frequently characterize natural resource based economies.

Federal, State, County, and municipal government agencies provide a considerable number of jobs and personal income to the regional employed labor force. Government employment generates significant jobs and income within the Carbon County economy.

Direct and Indirect Expenditures Within the Carbon County Economy

In 1995, the seven industries and primary employers that comprise the economic base of the County generated approximately \$125 million in annual wages and roughly \$118 million in other direct expenditures into the Carbon County economy. Consequently, the total direct expenditures (wages and other direct expenditures) that were made by the seven primary industries and primary employers in the Carbon County economy represented about \$244 million in 1995.

The seven industries and primary employers that comprise the economic base of Carbon County provided jobs for about 4,101 Carbon County residents in 1995. The average employed labor force in Carbon County during 1995 included about 8,239 persons. Consequently, these seven industries and primary employers provide about 50 percent of the total direct employment in Carbon County (Table 2-1).

The indirect expenditures that are created by activities in the County's economic base are important to the well-being of the County's service sector, construction industry, and smaller local manufacturers. In 1995, approximately 2,609 indirect jobs and almost \$50.2 million of indirect expenditures were created from the direct employment and expenditures of the County's seven primary industries and primary employers. The agricultural and transportation sectors of the economy particularly induce a significant amount of indirect jobs and income to the economy (Table 2-2).

Cumulative direct and indirect employment, which is derived from the County's economic base, provides about 6,714 jobs in 1995, or about 81 percent of the total employment generated in Carbon County. This employment, combined with other direct and indirect expenditures, represented roughly \$294 million of annual economic activity within Carbon County. Consequently, Carbon County's economic base is substantive and vital to sustaining the resident population of Carbon County.

Contribution to the Revenue Base of Carbon County

The primary industries and employers that comprise the economic base of the Carbon County economy also make significant contributions to the revenue base of Carbon County and the 10 municipalities in Carbon County.

The oil and gas industry paid about \$7.5 million in ad valorem taxes. Most of these revenues are distributed to County and municipal government, as well as local school districts.

The underground and surface mining industries paid about \$4.3 million in ad valorem production and property taxes, as well as sales tax.

In FY 1996, \$161,436 in severance tax revenues were received by Carbon County. Another \$487,870 was distributed to the ten municipalities in Carbon County. These taxes revenues were gained from coal, oil and gas production in Carbon County.

Agriculture pays an estimated \$417,063 in ad valorem tax and only about \$16,346 in sales tax. The timber industry generates about \$48,639 via property taxes and license fees.

In FY 1996, the visitor industry generated about \$136,766 in lodging tax revenues for Carbon County and its municipalities.

The cumulative contribution of the seven primary industries and employers (excluding government) to the revenue base of Carbon County and its ten municipalities is about \$13.1 million per year. In the context of local government operations, Carbon County required roughly \$7.3 million to operate County operations and facilities. The City of Rawlins presently requires \$11 to 12 million to operate the City of Rawlins. Consequently, the revenue contributions of the County's economic base are essential to the continued function of local governmental operations in Carbon County.

Other Sectors of the Carbon County Economy

General

Results from the Small Business Owner survey indicate that small businesses in Carbon County employ an average of two full-time employees and one part-time employee.

The average annual operation expenses for small businesses in Carbon County are approximately \$346,505. Approximately 63 percent of this amount, or \$218,298, remains in Carbon County via the expenditures of small business.

TABLE 2-1 1995 EMPLOYMENT AND DIRECT EXPENDITURES BY PRIMARY INDUSTRIES AND PRIMARY EMPLOYERS IN THE CARBON COUNTY ECONOMY				
Industry	Direct Employment (jobs)	Annual Gross Wages (\$ million)	Other Direct Expenditures (\$ million)	Total Direct Expenditures (\$ million)
Underground Mining	128	\$8.10	\$4.20	\$12.30
Surface Mining	72	3.80	2.09	5.89
Agriculture	515	9.00	18.30	27.30
Transportation	410	9.69	87.25	96.94
UP Railroad	138	6.5	76.00	82.50
Truck Stops	272	3.19	11.25	14.44
Timber	229	8.06	0.75	8.81
Oil and Gas	405	32.85	5.67	38.52
Sinclair Refinery	230	12.0	5.60	17.60
Gas/Transport/Processing	89	4.84	0.07	4.91
Oil/Gas Production	86	16.01	N/A	16.01
Tourism	303	4.55	N/A	4.55
Government	2,039	49.20	N/A	49.20
TOTAL	4,101	125.25	118.26	243.51

Notes:

1. Employment estimates for agriculture and government reflect 1995 data from the U.S. Bureau of Economic Analysis.
2. Employment estimates for tourism were made by the Wyoming Department of Employment and are believed to be conservative.
3. No division between annual gross wages and other direct expenditures are available for oil/gas production.
4. All other estimates are based upon discussions with industry representatives.

Source: Pedersen Planning Consultants, 1997

TABLE 2-2 1995 INDIRECT EMPLOYMENT AND EXPENDITURES BY PRIMARY INDUSTRIES AND PRIMARY EMPLOYERS IN THE CARBON COUNTY ECONOMY		
Industry	Indirect Employment (jobs)	Indirect Expenditures (\$ million)
Coal Mining	250	4.32
Timber	144	2.02
Transportation	537	12.80
Agriculture	898	15.28
Oil and Gas	428	10.26
Visitor	52	0.91
Government	300	4.59
TOTAL	2,609	50.18

Source: Pedersen Planning Consultants, 1997

Assuming the operation of about 526 small businesses in Carbon County, it can be estimated that small business activities contribute almost \$114.8 million dollars to the Carbon County economy via direct employment and operational expenditures.

Construction

In 1995, approximately 467 residents were employed by various building contractors and tradesmen that comprise the construction industry of Carbon County. This workforce earned approximately \$11,076,000 in 1995.

Other Manufacturing

Smaller manufacturing establishments in Carbon County include a computer component manufacturer, furniture manufacturers, printing establishments, chemical producers, leather product manufacturers, as well as industrial machinery and equipment operations. In 1995, approximately 42 persons were employed by smaller manufacturers in the County. Personal income and earnings that were derived from smaller manufacturers represented about \$799,000 in 1995.

Service Sector

The service sector of Carbon County includes retail and wholesale trade establishments, financial institutions, insurance agencies, and real estate agencies. Roughly 3,300 residents were employed in the service sector in 1995. Personal income and earnings generated by these establishments during the same year included approximately \$60.6 million.

Prospects for Future Stability and Growth in the Carbon County Economy

Continued Availability of Federal and State Lands for Multiple Use Management

Carbon County is blessed by an abundance of natural resources that include range land, minerals, timber, fish and wildlife, and water. The availability of these resources and the access that is afforded via local transportation systems offer a continued opportunity to strengthen and expand the existing economic base of Carbon County. Further, these opportunities are essential to sustaining the resident population of Carbon County.

Many of the natural resources in Carbon County are situated on federal and State lands. Without the cooperation and diligent management of the U.S. Bureau of Land Management and the U.S. Forest Service, future access to these resources could become significantly limited, make resource use uneconomical, and discourage future investment.

A shared community vision is needed to develop and use these natural resources. However, County residents believe that any future use of the County's natural resources needs to reasonably balance the economic needs with longer term consideration of resource conservation.

A similar balance is needed in the future resource and land management decisions that are made by federal and State agencies. The decision-making process for these decisions must incorporate a careful and meaningful evaluation of potential economic consequences that are associated with proposed resource and land management actions. Such evaluations should be, at least, comparable to the level of analyses that are made to evaluate wildlife and water resources.

Economic Diversity

Regional economies that are primarily based upon the development and use of natural resources are typically characterized by boom and bust cycles that result from the completion of individual mining and exploration projects, fluctuations in market demand and prices, and other external factors. These experiences are well known to long-time Carbon County residents.

New resource development projects typically generate an influx of new workers and their dependents. When an expected or unexpected decline in the resource development project occurs, workers and their families leave the project area and/or seek potential opportunities in other sectors of the regional economy. The outmigration of a significant workforce frequently generates significant impacts upon the service sector, transportation, small manufacturing operations, and other sectors of the economy. In this context, it is important that Carbon County takes aggressive steps to diversify its economy in order to reduce the “sting” of future economic downturns.

The encouragement of increased economic diversity requires the availability of land that could be used for smaller manufacturing operations and light industrial activities (see Chapter Six). These potential opportunities should be conveyed to potential industrial investors by representatives of the Carbon County Economic Development Corporation, municipal representatives in Carbon County, and representatives of the Wyoming Business Council.

Greater economic diversity is not necessarily synonymous with a significant expansion in the size of the economy. Responses to the Resident Survey indicate an interest for some population growth and some economic growth. For this reason, it is important that prospective industrial operations are selectively encouraged and that the community’s overall vision for future economic growth is not overlooked. The scale of existing residential areas, the size of existing industrial properties, and the community attitudes that have emerged from the Land Use Plan process suggest a need for new light industrial activities that use between 10 and 50 employees.

Economic Relationship Between Carbon County Communities

Residents of the 10 communities in Carbon County, and the surrounding unincorporated areas, are very reliant upon each other. State tax revenues are distributed to Carbon County and its 10 municipalities, e.g., ad valorem, severance, and sales taxes, are distributed through a complicated set of State tax distribution formulas. These formulas are largely based on where industrial activity occurs, i.e., which county, as well as the proportion of County and municipal populations to the overall State population.

From this perspective, the maintenance of economic viability in the Carbon County economy and related economic expansion is the responsibility of County and municipal government, Carbon County Economic Development Corporation, other community organizations, and all residents. The Council of Governments, the Carbon County Economic Development Corporation, and other community organizations should work individually and collectively to improve the economic climate in Carbon County, encourage greater economic diversity, ensure the availability of lands for future industrial expansion, and increase revenue generation for County and municipal government.

Need for a Carbon County Economic Development Plan

Because of the need for increased economic diversity in the regional economy, a new economic development plan should be prepared for Carbon County that encourages greater economic stability. The plan should, in part, identify a specific range of future economic development opportunities and strategies for attracting recommended new types of industrial and commercial enterprises.

Greater stability can be achieved when new industrial and commercial enterprises are established that offer attractive employment opportunities for local high school graduates, returning college graduates, and new residents who together will bring new talents, vision, and investment capital into the region. The front range of Colorado and other selected urban areas represent potential areas where future economic development prospects seeking relocation or expansion are located. Value-added enterprises such as the proposed wood treating facility in Medicine Bow remain as important economic development opportunities. The synergy and working relationship of existing industries with new value-added enterprises can create a more attractive business environment, and encourage a continued, long-term investment by existing, natural resource-based industries.

The preparation of a regional economic development plan for Carbon County is timely. The availability of economic information in the County Land Use Plan provides considerable background concerning the structure of the regional economy, population trends, existing land uses, and a general vision for future land

use development. In addition, the State of Wyoming has established a State business council that intends to reorganize and intensify Wyoming's overall economic development program.

POPULATION

An estimate of the 1996 resident population of Carbon County and its 10 municipalities is presented in Table 2-3. The estimate is based upon a detailed review and application of natural growth rates and migration data that is described in Chapter Five of the Land Use Plan.

TABLE 2-3 REGIONAL POPULATION DISTRIBUTION CARBON COUNTY 1990-1996				
Municipality/ Area	April, 1990 Population	Estimated 1996 Population	1990-1996 Growth Rate (Percent)	Average Annual Growth Rate 1990-1996 (Percent)
Baggs	272	246	-09.55	-01.59
Dixon	70	121	72.85	12.14
Elk Mountain	186	173	-06.98	-01.16
Encampment	490	460	-06.12	-01.02
Hanna	1,076	1,094	01.67	-00.27
Medicine Bow	389	319	-17.99	-02.99
Rawlins	9,380	9,021	-03.82	-00.63
Riverside	85	70	-17.64	-02.94
Saratoga	1,969	1,905	-03.25	-00.54
Sinclair	500	564	12.80	02.13
Total Municipal Population	14,417	13,973	-03.07	-00.51
Unincorporated Area Population	2,242	1,882	-16.05	-02.67
TOTAL	16,659	15,855	-4.83	-0.80

Note: 1996 population estimates relied primarily upon the use of municipal data concerning the number of residential water meters that were used by full-time residents. This data was multiplied by an average household size determined by the 1990 U.S Census for each municipality. Estimates of the unincorporated area and each municipal population was adjusted downward to coincide regional distribution with the total County population estimate.

Source: Pedersen Planning Consultants, 1997; U.S. Bureau of the Census, 1990; Municipal Town Clerks and Utility Collection Managers in Carbon County, 1997; State Department of Administration and Information, Economic Analysis Division, 1997

A forecast is also provided for the 1997-2015 period (Table 2-4). The assumptions for the population forecasts consider natural growth rates, migration, average household size, the growth of senior citizens, the availability of land for future residential expansion, as well as the location of anticipated growth in the 10 municipalities and unincorporated areas of the County.

TABLE 2-4 ANTICIPATED DISTRIBUTION CARBON COUNTY RESIDENT POPULATION 1997-2015					
<i>Municipality/Area</i>	<i>1996</i>	<i>1997- 2000</i>	<i>2001- 2005</i>	<i>2006- 2010</i>	<i>2011- 2015</i>
Baggs	246	259	273	295	303
Dixon	121	130	136	145	163
Elk Mountain	173	186	225	227	225
Encampment	460	487	507	522	545
Hanna	1,094	983	1,467	1,399	1,273
Medicine Bow	319	347	493	477	455
Rawlins	9,021	9,532	10,572	11,272	11,911
Riverside	70	86	95	101	121
Saratoga	1,905	1,973	2,044	2,053	2,044
Sinclair	564	576	637	637	637
Total Municipal Population	13,973	14,559	16,445	17,124	17,673
Unincorporated Area Population	1,882	1,189	1,321	1,450	1,533
TOTAL COUNTY POPULATION	15,855	15,748	17,766	18,574	19,206

Source: Pedersen Planning Consultants, 1997

The forecasts indicate that Carbon County resident population will increase to about 19,206 persons by the year 2015. Such growth will represent an increase of about 21 percent from 1996 through the year 2015.

A modest decline in resident population is initially expected to continue between 1997 through the year 2000. Despite this decline, economic prospects and employment opportunities will continue to improve. The rate of out-migration from the County is expected to decline.

Substantive economic expansion is envisioned between 2001 and 2005. Significant new employment opportunities will take place in the mining, transportation, oil and gas, and government sectors of the economy. The impetus of this expansion is expected from:

1. the proposed Elk Mountain Mine project near Hanna,
2. increased oil gas development in the Great Divide and Washakie Basins, and
3. expansion of the Wyoming State Penitentiary complex in Rawlins.

Continued growth in population is expected throughout the 1997-2015 period. A greater acceleration in the rate of population growth will likely occur during the 2001-2005 period. The rate of growth is expected to diminish between 2006 and 2015 as the rate of in-migration slows.

Regional Population Distribution

The greatest growth will likely be experienced in Hanna, Medicine Bow, and Rawlins (Table 2-4). The growth of these communities will closely parallel future economic conditions, especially future coal development activities.

The growth of Saratoga, Elk Mountain, Encampment, and Riverside will likely be a reflection of real estate sales and development activity in Carbon County. However, Saratoga will benefit from increased real estate sales and investment, as well as increased retail trade and professional services.

Limited population growth will occur in the Little Snake River area during the 1997-2015 period. However, the community of Baggs will experience some modest growth in both light industry and tourism. A continued influx of retirees to Dixon is also expected.

ENVIRONMENT

Numerous natural resources are present in Carbon County. Residents of the County enjoy a unique relationship with these resources because:

- Various outdoor recreational opportunities take place in forested and rangeland areas, as well as rivers and streams within the County.
- Many residents regularly view scenic vistas and wildlife during normal working hours, from their homes, or when they travel within the County.
- The County's visitor industry is dependent upon the exploitation and conservation of these resources.

In this context, the County believes that the physical and biological resources of the regional environment should be used and conserved wisely. At the same time, the conservation of these resources should be balanced with social and economic needs of Carbon County residents who serve as both stewards and users of the land and natural resources.

While traditional zoning frequently does not reflect resource management considerations, Carbon County believes that it is important to conserve the crucial winter range of big game animals, as well as the surface water quality of local streams. In this context, the County Planning Commission desires to integrate the consideration of crucial winter range areas for big game animals in its future land management decisions.

Similarly, a reasonable setback will be established for all structural development that occurs adjacent to surface water bodies such as creeks, streams, ponds and lakes, and natural impoundments. This consideration, which will be applicable to all residential, commercial, and industrial land uses, will consider flood protection, water quality, public recreation, and aquatic habitat.

Carbon County will also evaluate future options for encouraging the long-term conservation of irrigated lands in the Little Snake River and Upper North Platte River basins.

Carbon County supports the continued efforts of the State Conservation Districts in Carbon County to monitor surface water quality in the Little Snake River and North Platte River basins. With participation in future monitoring, greater local participation can be contributed to future surface water quality and related TMDL issues. In this regard, it is recommended that the local Conservation Districts would provide the Board of County Commissioners with periodic reports concerning the status and findings of long-term water quality monitoring.

LAND USES

Introduction

Chapter Seven initially identifies existing land uses in Carbon County in 1996 (Table 2-5). The identification of existing land use information was determined through the use of available electrical meter data from the four electrical utilities that serve Carbon County. This information was supplemented and correlated with land use information that was derived from municipal water meter records of the 10 municipalities in Carbon County.

TABLE 2-5 LAND USES IN CARBON COUNTY 1996						
	<i>Residential Units</i>	<i>Commercial Units</i>	<i>Industrial Units</i>	<i>Public Facilities</i>	<i>Community Facilities</i>	<i>Private Utilities</i>
Baggs	144	18	0	5	2	1
Dixon	71	1	0	2	0	0
Elk Mountain	88	3	0	5	1	1
Encampment	283	18	3	6	4	1
Hanna	429	23	5	8	6	1
Medicine Bow	155	18	0	10	7	1
Rawlins	3,694	266	10	33	16	5
Riverside	62	6	0	1	0	0
Saratoga	935	99	1	17	11	3
Sinclair	271	5	1	2	1	0
Total Municipal Uses	6,132	457	20	89	48	13
Unincorporat ed Areas	1,142	135	91	53	14	48
Total County Uses	7,274	592	111	142	62	61

Notes: Estimated residential uses consider both occupied and vacant units.
 Commercial uses include banks, drug stores, flower shops, etc.
 Industrial uses include pipelines, oil wells, coal mines, oil refineries, construction companies, etc.
 Public facilities include publicly maintained schools, state and county facilities, parks, etc.
 Community facilities include buildings such as churches, Odd Fellows halls, etc.
 Private utilities include telecommunications companies except cable companies, and power companies.

Source: Pedersen Planning Consultants, 1997; Municipal Town Clerks and Utility Collection Managers in Carbon County, 1997; Carbon Power and Light, 1996; Yampa Valley Electric, 1997; Pacific Power and Light, 1997; Hot Springs REA, 1997.

The second portion of Chapter Seven evaluates anticipated land use demands and requirements to the year 2015 for several types of land uses. For example, potential economic expansion and development opportunities that are envisioned by local industry representatives are presented to help envision future industrial land use requirements.

The outgrowth of this analysis is the recommendation of one or more general land uses for all unincorporated areas of Carbon County. These recommendations are a reflection of the earlier evaluations of the community attitudes and issues, resident population, the environment, the economy, and existing land use trends. In addition, the recommendations of future land uses also incorporate considerations of general land use compatibility, accessibility, environmental conditions, physical and wildlife resources, and other related concerns.

Agriculture

Anticipated Demand for Agricultural Land

There are some 286 commercial ranch operations that require sizeable land areas to support the production of cattle, sheep, horses, hay, grains and other commercial agricultural products. The availability of land areas that can sustain the growth of grasses, provide surface water supplies, and limited vehicular access are essential elements to operating a commercial cattle operation in Carbon County.

The ranch survey that was distributed to roughly 30 percent of commercial ranchers in Carbon County in 1996 indicate that the average ranch in Carbon County contains about 28,689 acres of land, or almost 45 sections of land. Some ranches in the County are considerably smaller than the average size reflected from the survey results. Available data from the Wyoming Agricultural Statistics Service suggest that the average size of a ranch operation in the County is about 9,480 acres. In either case, it is clear that the average commercial ranch operation requires a sizeable amount of land to sustain a commercial cattle operation.

Ranch survey results also report that about 58 percent of the ranch operations in the County use federal lands that are administered by the U.S. Bureau of Land Management for the pasture of cattle. About 20 percent of the Carbon County ranch operations use lands on the Medicine Bow National Forest representatives for seasonal pasture use.

The large commitment of land that is necessary to sustain, at least, existing commercial ranching activities raises a legitimate question concerning the importance and desirability of sustaining the existing level of commercial ranching in Carbon County. The extent of lands that are required to sustain existing agriculture will also impact potential opportunities that are afforded via other potential land uses. General considerations of the environment and the economy provide a practical direction.

Commercial cattle ranching operations, sheep production, hay and grain production, and other commercial agricultural activities in Carbon County represent one of the most effective forms of long-term resource conservation for both land and wildlife resources. While vast land areas are used to pasture cattle, the continual rotation of cattle on local rangelands and/or the production of hay on local ranches enables big game animals, mammals, and birds to compatibly inhabit the same environment. In the absence of agriculture, the potential loss of large tracts of private ranch lands would clearly "open the door" to a gradual to rapid urbanization of the County's landscape. This change parallels many of the changes that have occurred in the Front Range of Colorado and other parts of the western United States. Similar to the Front Range of Colorado, such urbanization would, at least:

- destroy large areas of wildlife habitat,
- significantly reduce the herd sizes of big game animals, other mammals, and birds,
- significantly alter vistas, views, and open spaces that are treasured by many County residents,
- foster increased land speculation,
- increase land values, and,
- generate a significant increase in the cost of public services for the development, operation and maintenance of new infrastructure.

In terms of the economy, existing cattle ranch operations annually generate approximately \$27.3 million of direct expenditures into the Carbon County economy, which represented about 14 percent of the County's economic base in 1995. Indirect expenditures generated from agriculture are approximately \$11.5 million per year. Consequently, the impact of commercial agriculture upon the economic livelihood of Carbon County residents is significant.

With the loss of this important economic sector, the potential urbanization of agricultural lands would need to be replaced with some industrial activities to replace the economic benefits that are generated by agriculture.

Recommended Areas for Agricultural Expansion

In the context of these considerations, Carbon County recommends that all lands that have suitability for agriculture, e.g., range lands, should be used for future agricultural use. This recommendation refers to both private and public lands in the County.

Some of the lands that are suitable for commercial agricultural in Carbon County also contain valuable minerals in the subsurface estate. Gravel, coal, as well as oil and gas resources can often be feasibly mined or exploited for commercial production. Such activities can usually share land and water resources without causing any significant impact to agriculture. Carbon County recommends and encourages the continued use of these resources on agricultural lands. Mineral development enables some ranchers in the County to supplement the income that is derived from agricultural activities.

The continued economic viability of ranch operations and other agricultural operations is often tenuous. In recognition of this challenge, Carbon County envisions that other land uses such as dude ranches, bed and breakfast establishment, lodges, and related recreational facilities will also be established as an economic supplement to agricultural activities.

Residential

Anticipated Demand for Residential Land

General

Recent population and economic trends do not signal any significant, short-term deficits in total housing inventory for Carbon County. With the exception of Rawlins, no detailed housing demand analyses have recently been made for each municipality or the unincorporated lands in the County.

Despite recent trends, a need for additional housing is foreseen in selected areas of the County near the turn of millenium. Such demands will likely be generated by planned surface coal operations in the Carbon Basin and the anticipated influx of new truckers, mechanics, and their dependents.

In addition, there are national and regional trends that suggest a continuing demand for rural lands in the unincorporated areas of the County.

These residential demands are discussed in somewhat greater detail in the following paragraphs.

Housing for State Department of Corrections Personnel

A 1997 housing assessment by the City of Rawlins points out the need for affordable, rental and single family housing opportunities that will be required to support the long-term operation of the planned maximum security prison in Rawlins, as well as housing for new inmate families. The City estimates that 295 additional housing units are needed to support these demands (City of Rawlins, Department of Community Development, 1997). Such needs are anticipated by the year 2001. The City of Rawlins is wisely anticipating these housing requirements and established a Housing Task Force to pursue plans to meet these needs.

Temporary Housing for Maximum Security Prison Construction Workers

Temporary housing for construction workers will be needed to support the planned construction of the maximum security prison in Rawlins. Construction of this facility is expected to begin in the spring of 1998 and continue for, at least, three years (Ortega, 1997). Temporary housing needs for these construction workers will likely generate demands for recreational vehicle spaces at existing RV campgrounds, trailer courts, as well as residential apartment units in the Rawlins area.

Temporary Housing for Oil and Gas Exploration Workers

Consultants previously projected that future oil and gas development activities in the Greater Wamsutter Area II would include the drilling of about 55 wells through the year 2005. However, some 280 wells have already been drilled in some 300 locations in Greater Wamsutter Area II (Guernsey, 1997). Consequently, only 20 additional wells are expected to be completed in this area during 1997. As a result, no significant impacts upon residential facilities in Carbon County will occur as a result of these oil and gas activities.

However, during the next 10 to 15 years, some 450 new wells in 300 locations are also expected to be developed within the adjoining Continental Divide and Washakie Basins (Guernsey, 1997). These oil and gas activities will generate a need for a combination of temporary and permanent housing in both Sweetwater County and Carbon County. Housing demand will likely reflect the desired use of recreational vehicles, mobile homes, residential apartments, and single family dwellings. Within Carbon County, the demand for these types of residential facilities is anticipated to occur in Rawlins because of its proximity to oil and gas development activities and the availability of community services.

Environmental impact analyses being prepared for the Great Divide Basin and Greater Wamsutter Area suggest that future oil and gas development will generally bring two groups of incoming workers to Sweetwater and Carbon Counties:

1. workers associated with road construction, testing operations, the drilling and completion of wells, and pipeline construction
2. workers associated with the long-term operation and maintenance of oil and gas activities

TRC Mariah, the consultant preparing the EIS, estimates that the initial labor force will generate employment for some 330 people per year between 1998 and the year 2018. The consultant believes that about 80-85 percent of this labor force will reside in Sweetwater County; the remaining 15 to 20 percent will live in Carbon County.

The operations and maintenance workforce is expected to generate approximately 146 new workers per year between 2001 and 2031. TRC Mariah assumes that approximately 50 percent of this labor force will reside in Sweetwater County; the other 50 percent are expected to live in Carbon County.

For the purposes of the Carbon County Land Use Plan, Carbon County believes that the amount of new workers who will reside in Carbon County will be considerably less. The County estimates that about six percent of the initial labor force will live in Carbon County, within the City of Rawlins. This influx of approximately 20 new workers per year is anticipated to create a demand for some 340 housing units during the 1997-2015 period (Table 2-6).

Carbon County also assumes that about 25 percent of the incoming operations and maintenance labor force will live in Carbon County within the City of Rawlins. This anticipated workforce is expected to generate a demand for an additional 555 housing units between the year 2005 and 2015, or about 37 housing units per year (Table 2-6).

Housing for New Transportation Labor Force Associated With the Planned Elk Mountain Mine

Pedersen Planning Consultants estimates that approximately 60 of the 70 new transportation industry jobs, e.g., truck drivers and mechanics, associated with the mining of the proposed Elk Mountain Mine will represent new incoming workers to Carbon County. In order to evaluate the potential impacts of this employment upon residential demands, PPC arbitrarily assumed that these new workers reside in the seven different areas of the County (Table 2-7).

TABLE 2-6 ANTICIPATED OIL AND GAS LABOR FORCE IN CARBON COUNTY ASSOCIATED WITH GREAT DIVIDE BASIN AND GREATER WAMSUTTER DEVELOPMENT		
<i>Planning Period</i>	Number of New Workers	
	<i>Road/Pipeline Construction Well Drilling/ Completion</i>	<i>Operations and Maintenance</i>
1998-2000	40	0
2001-2005	100	185
2006-2010	100	185
2011-2015	100	185
Total New Workers	340	555

Source: Pedersen Planning Consultants, 1998

TABLE 2-7 ANTICIPATED DISTRIBUTION OF NEW TRANSPORTATION WORKFORCE ASSOCIATED WITH ELK MOUNTAIN MINE		
<i>Community</i>	<i>Number of Workers</i>	<i>Potential Incoming Resident Population</i>
Encampment	3	7
Elk Mountain	5	14
Hanna	30	82
Medicine Bow	10	26
Saratoga	3	8
Rawlins	7	18
Riverside	2	5
Total	60	160

Source: Pedersen Planning Consultants, 1997

Housing for Underground Miners Associated with the Elk Mountain Mine

Another source of future housing demands will likely be generated from proposed underground mining at the Elk Mountain Mine. Arch Coal, Inc. envisions the development of a test mine in the Carbon Basin in the year 2003. Such testing would assess the potential for extracting underground coal reserves from the proposed Elk Mountain Mine. If anticipated results are confirmed via field testing, Arch Coal, Inc. expects that underground mining in the Carbon Basin would occur between 2005 and 2030. Arch Coal, Inc. estimates that underground mining activities would generate employment for approximately 220 underground coal miners (Turner, 1997). In essence, such employment creates a demand for 220 new homes unless a portion of the workforce is derived from existing Carbon County residents.

Rural Residential Properties

The resident population of three in four nonmetropolitan areas in the United States increased between 1990 and 1994 (Fort Worth Star-Telegram, 1997). Demographers Johnson and Beale concluded that many Americans hold a strong conviction that small-town life is better than big-city life.

If the assumptions of Johnson and Beale and other demographers hold true, a continued demand for rural residential properties in Carbon County can be expected. The demand for rural residential properties that permit a rural lifestyle where families can live a slower-paced lifestyle, possibly operate a home-based occupation, and engage in some non-commercial agricultural activities.

Recommended Areas for Future Residential Expansion

Carbon County recognizes potential residential demands and the need to support four general types of residential land uses:

1. Urban residential expansion areas;
2. Suburban residential expansion areas;
3. Rural residential expansion areas; and,
4. Mountain and remote residential expansion areas.

Urban Residential Expansion Areas

Urban residential areas are needed to enable the future development of new housing areas for persons who desire the availability of public utilities and other public services, and a closer proximity to commercial retail shopping areas, restaurants, and medical services. The Planning Commission envisions that future housing in these areas would include approved residential developments, single family dwellings, apartment complexes, townhouses, as well as trailer and mobile home courts.

Carbon County recommends that urban residential expansion should generally occur on land parcels that will generally range between 5,000 square feet and five acres in size.

Urban residential expansion will take place within the corporate boundaries of the 10 existing municipalities in Carbon County, as well as within a one-mile radius of these communities. This policy is based upon the recognition that it is important to expand and strengthen the future consumer base that will:

- support the future operation, maintenance, and expansion of municipal water, sewer, and road systems;
- support the operation and maintenance of public solid waste disposal facilities;
- enable existing municipalities and Carbon County to more cost-effectively provide and expand fire suppression, police protection, and emergency medical services.

The density of future urban expansion areas in municipal areas will be determined by municipal land use plans and zoning ordinances. Urban expansion areas within a one-mile radius of the corporate boundary will eventually be defined by County zoning unless a given municipality has already gained authority to assume the responsibility for land management in this area.

Suburban Residential Expansion Areas

Suburban residential expansion areas are needed to support residential land uses on parcels, between 5 and 20 acres in size, that are in close proximity to existing municipal areas and public services, but may not be dependent upon public utility systems. However, when municipal water, sewer, and road improvements are eventually made in these areas, the connection to these public services would be mandatory for all new residential construction that occurs after 1998. Consequently, the long-term intent of Carbon County is to encourage the eventual expansion of municipal water and wastewater systems to suburban residential expansion areas when such development is feasible and practical for each respective municipal government.

Carbon County envisions that future housing in these areas would include only single family dwellings. Suburban residential expansion areas would be situated within one and two miles of existing municipal boundaries. This policy is based upon the recognition that it is important to expand and strengthen the future consumer base that will support the future operation, maintenance, and eventual expansion of municipal water and wastewater systems, City and County fire suppression, police protection, emergency medical services, and solid waste disposal facilities.

Suburban residential expansion areas, which contain no municipal water and wastewater systems, should occur in areas where:

- there is known groundwater potential that is adequate to support proposed potable water uses and related individual groundwater well production,
- soils are adequate to support soil-based wastewater treatment,
- easement to the property is available to gain vehicular access, and/or,
- County roads that may be used for vehicular access receive annual or seasonal road maintenance.

Rural Residential Expansion Areas

The designation of rural residential properties is also needed to support the relocation of new, incoming families and individuals that seek a more rural living environment, and do not desire or expect the availability of public utilities and services. Carbon County envisions that future residential dwellings in these areas would include single family dwelling units on permanent foundations. Land uses that would accompany these residential areas would generally include non-commercial agricultural activities, home occupations, bed and breakfast establishments and lodges, and related activities.

Carbon County believes it is important that rural residential expansion takes place where:

- there is known groundwater potential that is adequate to support proposed potable water uses and related individual groundwater well production,
- soils are adequate to support soil-based wastewater treatment,
- easement to the property is available for vehicular access,
- County roads that may be used for vehicular access receive annual or seasonal road maintenance,
- proposed residential areas are in close proximity to existing residential communities in Carbon County, and,
- rural residential properties are situated within County-approved residential subdivisions.

Mountain and Remote Residential Expansion Areas

Selected areas of the County need to be used for mountain and remote residential uses. The County already has several remote, residential subdivisions that are presently used for seasonal recreational use. Similarly, there are numerous single family residences and cabins in or near the Medicine Bow-Routt National Forest. Most of the residential subdivisions and individual recreational cabin sites are situated in more remote areas of the Medicine Bow-Routt National Forest which are inaccessible during the winter months.

Carbon County agrees that these remote areas are desirable for recreational use. However, it is also recognizes that ever-changing operational policies in public road maintenance, e.g., federal roadways, could easily change seasonal recreational uses to permanent residential uses in selected areas of the County.

Carbon County also recognizes that mountain and remote cabin sites to be completely independent of public services. Low density residential use, e.g., one dwelling unit on most parcels, is also envisioned to maintain the resources of the environment. Further, it is

essential that mountain and remote residential uses do not significantly impact natural resources such as streams, wetlands, and related fish and wildlife habitat. In this context, the Carbon County envisions a careful site evaluation of all remote and mountain sites, and the continued use of development stipulations to conserve affected natural resources.

Industrial

Timber Industry

Anticipated Demand for Industrial Land

In the next 20 years, no significant expansion of the three existing timber mill operations in Carbon County is anticipated. However, Western Wood Products in Medicine Bow is contemplating the development of additional processing facilities that will increase the economic value of its post and pole products (Levengood, 1997).

Louisiana-Pacific Corporation (LPC) representatives indicate that it would consider the establishment of a finger-joint plant, which would employ 25 to 30 persons, within its existing mill complex in Saratoga if its mill could operate at full capacity. For this to occur, the LPC mill would need to regularly harvest about 25 million board feet (MMBF) of raw timber per year from the Medicine Bow National Forest and other nearby national forests.

The present concern of Carbon County is to keep the three existing timber mills economically viable. At the same time, the County favors any prospective timber industry expansion, e.g., finger-joint plant by LPC and scrag plant at Hammer Mill, that would generate added economic value to timber resources that are harvested and processed in Carbon County.

While no expanded land requirements are presently envisioned for the long-term expansion of the LPC or Hammer mill operations, there is a continuing need for the designation of selected timber resources in the Medicine Bow-Routt National Forest for the future commercial sale and harvest of sawtimber. The availability of selected timber resources for commercial harvest in these areas is essential to maintaining the viability of the three mills in the County.

In recent years, it is clear that various federal statutes have required the U.S. Forest Service to expand its scope of resource management responsibilities to include a variety of relevant considerations such as recreation, fish and wildlife habitat, and water quality. These issues are receiving increased attention of the U.S. Forest Service in its effort to achieve integrated resource management. Carbon County views the agency's expansion of resource management considerations as both necessary and desirable to achieve more effective resource management decisions.

At the same time, declining operational budgets and expanded management responsibilities have recently hampered the agency's pursuit of its more recent management objectives. The focus of the agency's resource management evaluations, programs, and decisions demonstrate an increased consideration of wildlife, soil, and water conservation issues in the U.S. Forest Service's Brush Creek/Hayden Ranger District. However, the methodologies that are used to consider the economic viability of the timber industry remain unclear. It is essential that economic benefits that are associated with future timber sales give equal consideration to the impacts upon the regional Carbon County economy, as well as communities that are especially dependent upon the industry for its livelihood.

Recommended Areas for Industrial Expansion

Carbon County recommends that lands on the south side of Medicine Bow should be reserved by the Town of Medicine Bow for a planned facility expansion by Western Wood Products. This area is suitable for some light industrial expansion in light of the existing rail and highway access.

Available land area at existing mill sites in Saratoga and Encampment, and the general operational plans of the LPC and Hammer mills suggest no need to use additional land areas in the vicinity of the mill sites in Saratoga or Encampment. For this reason, Carbon County envisions no need to use additional land areas for the potential expansion of the timber processing facilities at Encampment and Saratoga.

At the same time, Carbon County recommends that the Towns of Encampment and Saratoga should continue to consider air quality and vehicular traffic considerations for adjoining lands that may eventually be proposed for other land uses, e.g., retail commercial and residential land uses. Otherwise, existing mill operations may unnecessarily be subjected to increased mill operation costs.

The U.S. Forest Service has identified lands in the Medicine Bow-Routt National Forest that it believes are suitable for the commercial harvest of sawtimber. Carbon County recommends that the U.S. Forest Service formulate a proposed timber harvest program on a portion of these lands that would provide the inventory needed to sustain the local timber industry. Such a program should be coordinated closely with Carbon County, local timber industry representatives, and concerned local residents.

Underground Coal Mining

Anticipated Demand for Industrial Land

By the year 2002, reclamation of the existing longwall panels at the Cyprus-Shoshone mine will likely have been completed. However, monitoring of the reclaimed area will continue through, at least, the year 2012 in order to satisfy the requirements of the U.S. Office of Surface Mining. The actual monitoring of these activities will be made by the State Department of Environmental Quality, Land Quality Division. Cyprus Amax has no expansion plans into any adjoining areas of the Hanna Basin.

If governmental approval is given for the development of the Carbon Basin (about 12 miles southeast of Hanna), underground coal mining activity may eventually occur in the Carbon Basin after surface coal reserves are initially extracted by Arch of Wyoming. The parent company of Arch of Wyoming, Arch Coal, Inc., has underground mining capability and may eventually pursue this development opportunity beginning in the year 2003 (Turner, 1997 and 1998). The mining opportunities associated with the Carbon Basin area are described more fully in Chapter Four in the context of surface mining activities.

Recommended Areas for Industrial Expansion

In light of the potential underground mining activities, the County Planning Commission recommends that the following areas could be used to accommodate potential industrial mining activity to the year 2015:

- the Carbon Basin area and,
- other known coal deposit reserves in Carbon County.

Surface Coal Mining

Anticipated Demand for Industrial Land

Ongoing surface mining activities are occurring north and west of Hanna at the Seminole II and Medicine Bow mines. Planned surface mining activities in the Carbon Basin are proposed to begin by the year 2001 and continue through 2012.

Recommended Areas for Industrial Expansion

In view of ongoing and potential surface mining activities, the County Planning Commission recommends that the following areas could be used for future industrial mining:

- Seminole II and Medicine Bow mine areas, and,
- proposed Carbon Basin area.

While the present focus of future surface mining opportunities lies in the Carbon Basin, several other long-term coal development prospects are located in Carbon County. The U.S. Bureau of Land Management's Medicine Bow-Divide Resource Management Plan identified five other potential coal development areas on federal lands in Carbon County:

- Red Rim,
- Indian Springs,
- China Butte,
- Atlantic Rim, and,
- Hanna Basin.

The general size of potential deposits ranges between 25 and 191 million tons (U.S. Bureau of Land Management, 1988). The potential volume that could be economically recovered from these areas was not determined. Nevertheless, the County Planning Commission recommends that these areas should be used for potential mining activity.

Other Mining Opportunities

Discussions with representatives of the State Geological Survey office and general surface geology mapping indicate that there are a variety of mineral resources in Carbon County that are conducive to future industrial and hardrock mining opportunities.

Sand and Gravel

Sand and gravel deposits are scattered throughout Carbon County. Significant land areas containing these deposits are generally situated roughly 12 to 20 miles north and northwest of Rawlins. Numerous leases have been issued by Union Pacific Resources within the historical, land grant "checkerboard" to support local construction demands (See, 1996).

Along the North Platte and Little Snake River drainages, there are outcrops of alluvial sand and gravel that contain varying proportions of subrounded to subangular clasts of gravel, sand, and clay. Outcrops of windblown sand are situated in a portion of northwest Carbon County; this area is north of Separation Lake, west of the Continental Divide, and south of the Ferris Mountains. In the north part of Carbon County, outcrop areas of older sand and gravel are located in area that is several miles east of Pathfinder Reservoir.

Limestone

Limestone deposits are found along the flanks of the Rawlins uplift. The deposits are generally located in the Madison formation that primarily contain a cement grade limestone (See, 1996). Other limestone deposits are known to be located on the north side of the Shirley Mountains and the south side of the Ferris Mountains (Harris, 1998).

Bentonite

Large bentonitic clay deposits are located north and southeast of Medicine Bow. These deposits are of Cretaceous age and primarily contained within the Clay Spur Bed (See, 1996). Within Carbon County, most significant deposits have good commercial quality. However, these deposits are generally steeply dipping; consequently, the mining of these resources is less attractive to commercial mining companies (Harris, 1998).

Bentonite historically has been used by the oil and gas industry during exploration drilling. More recently, bentonite has been used as an industrial binder for the production of taconite pellets that are associated with steel production. Various hazardous waste cleanup projects also apply bentonite to establish an impermeable barrier that prevents future contamination to surface and groundwater resources. The production of some “kitty litter” products also contains bentonite (Harris, 1998).

Uranium

Uranium resources are situated in the Shirley Basin. These resources are amenable to in-situ production (Odell, 1998; Harris, 1998).

Other uranium resources are located in the Poison Basin west of Baggs. However, these resources have less development potential (Harris, 1998).

About 95 percent of all uranium is used by the nuclear energy industry. There are some 100 nuclear energy plants in the United States. Since the nuclear energy industry is not expanding in the United States, the future, domestic demand for uranium shows little or no promise for growth. However, international demand for uranium is increasing in the Far East, e.g., China, where the nuclear industry continues to expand (Odell, 1998). In addition, nuclear energy plants in Europe also represent a continued market destination. Wyoming leads the national production of uranium (Harris, 1998). There are three uranium producers in the State that presently mine uranium; a fourth company, Kennecott Uranium Company, is preparing to mine uranium resources in neighboring Sweetwater County near Green Mountain (Odell, 1998).

Decorative and Dimensional Stone

Some of the better red granite in the United States is located south of State Highway 70 and north of the Huston Park wilderness area (southwest of Encampment). In the Seminoe and Shirley Mountain area, there are also deposits of granite that are suitable for decorative stone and aggregate. Various locations also contain moss rock and other decorative stone material that is in demand for residential and commercial construction applications.

Zeolite

Zeolite minerals are situated at the north end of the Sierra Madre near the headwaters of Sage Creek. Zeolite is used as synthetic mineral filter that absorbs toxic material. One of the primary industrial uses is associated with petroleum refining (Harris, 1998).

Hardrock Minerals

Gold, silver, copper, nickel, cobalt, platinum, and palladium deposits are known or suspected to be located in, at least, four general areas of Carbon County:

- between the east end of the Ferris Mountains and the Seminoe Mountains,
- the Seminoe Mountains,
- Snowy range area, and,
- most of the Sierra Madre (Hausel, 1998).

Zinc and lead deposits occur south of Encampment near the Wyoming-Colorado border.

Diamonds have been discovered in the Snowy Range area. Host rock minerals associated with diamonds are located in the Medicine Bow Mountains and the Seminoe Mountains.

Oil and Gas Industry

Anticipated Demand for Industrial Land

The future growth of the oil and gas industry is dependent upon the continued availability and accessibility to lands that contain oil and gas reserves. Because of the proprietary and competitive nature of this industry, the location of potential reserves can only be generalized.

For planning purposes, the location of past and ongoing oil and gas production provides an important indication of potential reserves. Similarly, the presence of existing pipeline systems and roads are critical factors that influence the economics of future investment decisions for oil and gas exploration and production.

Recommended Areas for Industrial Expansion

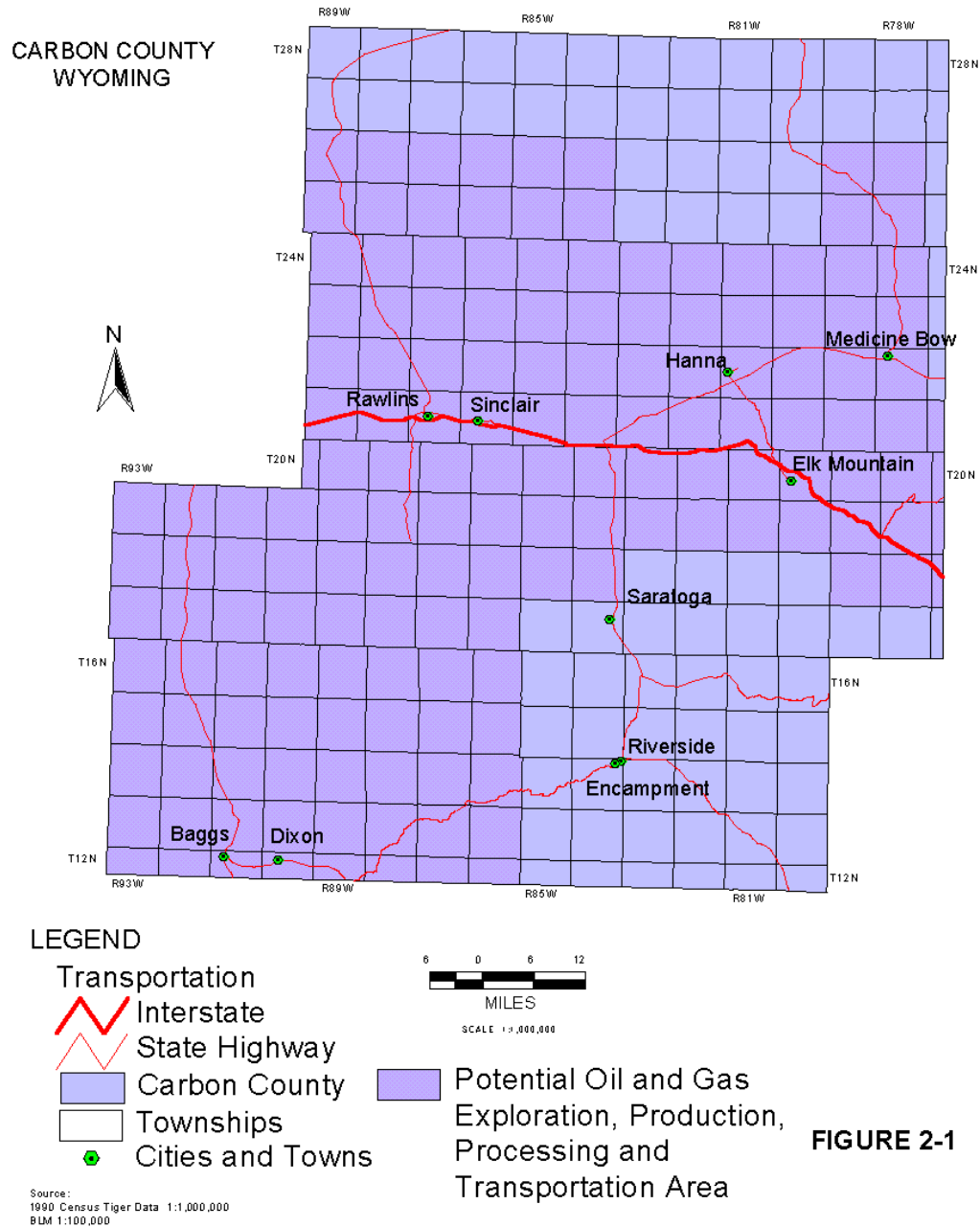
A review of available information and discussions with industry representatives strongly suggest that significant portions of the Great Divide and Washakie geologic basins continue to hold promise for continued oil and gas development during the next 20 years. With this perspective, the County Planning Commission recommends that the following areas should be used for potential oil and gas exploration and production, as well as related oil and gas processing facilities:

- Land areas between the Colorado border and the Ferris Mountains that are located between townships 12 and 26, range 86 through 93
- In the Hanna Basin, lands north and east of Rawlins and south of the Seminoe Reservoir and the Shirley Mountains. More specifically, the lands between townships 21 through 26, range 84 through 87, as well as the lands between townships 21 through 24, range 78 through 80
- Land areas south and east of Sinclair and Interstate 80 between Townships 18 and 20, range 84 through 86
- Other known oil and gas reserve areas

Another important area that is desirable for the location of potential oil and gas processing facilities and product transportation systems is an east-west corridor through Carbon County where the Sinclair Refinery, gas processing plants, and many related pipeline systems are already located. As the demand for gas and oil increases in market areas such as Kansas, Oklahoma, and Utah, some oil and gas processors may desire to develop new gas processing plants, e.g., compressor stations, in the vicinity of existing product transportation systems. Such facilities will help gas companies increase the potential volume of gas that can be transported to market destinations.

In order to accommodate the potential development of gas processing facilities, crude oil gathering system, and other economic opportunities, Carbon County recommends that an oil and gas processing and transportation corridor be used between the east and west boundaries of Carbon County. This corridor would generally follow the route of Interstate 80. More specifically, the corridor would include all of Townships 18 and 24 between the west boundary of Carbon County and Elk Mountain. Between Elk Mountain and the east boundary of Carbon County, the corridor would include the lands that are situated in townships 18 through 21, range 78 through 80 (Figure 2-1). However, the corridor would exclude any lands in the Medicine Bow National Forest.

PROPOSED AREA OIL AND GAS EXPLORATION, PRODUCTION, PROCESSING AND TRANSPORTATION



Carbon County recommends that the preceding geographical areas that are recommended for oil and gas exploration and production, processing facilities, and transportation systems should not be exclusively used for these purposes. Much of the areas recommended for use by the oil and gas industry are also very suitable for cattle ranching and other agricultural activities. Some areas of the corridor are also well located to provide public recreation opportunities, or vehicular access to nearby recreational areas. The proposed east-west corridor is also desirable to support other potential industrial activities that require convenient access to Interstate 80. The four land uses envisioned for the corridor are generally considered to be compatible. Consequently, the presence of one of the four recommended uses would not exclude the other.

Other Light Industrial Activities

Anticipated Demand for Lands to Support Light Industrial Activities

Future industrial development projects associated with coal mining, oil and gas, timber, and other industries may generate a future demand for several smaller industrial parks or complexes. Primary industrial activities could encourage the relocation of smaller manufacturers, as well as supporting commercial services, with the convenient availability of Interstate 80 and the adjoining Union Pacific rail corridor.

Aside from the support of primary industrial activities, Carbon County believes that it is essential to encourage other light industrial activities to foster an increased economic diversity in the regional economy. The County believes that Carbon County residents generally favor smaller industrial enterprises that employ between 10 to 50 people.

Carbon County envisions that potential light industrial areas will generally contain between 40 to 80 acres of land. Further, these areas will need to be accessible to Interstate 80, the Union Pacific railroad corridor, or other State highways. The Carbon County communities that are situated along this I-80/UP Railroad corridor include Rawlins, Sinclair, Hanna, and Medicine Bow.

Saratoga is located south of Interstate 80, but is located along the rail spur that presently serves the Louisiana-Pacific mill. In addition, a potential industrial site is situated northwest of the LPC mill that adjoins industrial-zoned lands in the Town of Saratoga.

Existing industrial sites are situated within and near the Town of Baggs, e.g., 44 Subdivision, contain industrial sites that are located adjacent to State Highway 789. These areas can provide convenient vehicular access to the nearby Washakie Basin and northern Colorado. However, as these areas become fully occupied, other areas should be developed.

The Towns of Encampment and Riverside are located adjacent to State Highway 230. Some smaller industrial sites are within each of these communities. Both communities have convenient access to northern Colorado. A few additional parcels in the vicinity of these communities is desirable to achieve greater economic diversity without compromising the lifestyle of residents and visitor industry activities.

The City of Rawlins has industrial sites within its municipal boundaries. At least one industrial area is situated in the City with a full availability of utilities.

Recommended Areas for Industrial Expansion

In view of the opportunities for potential development, Carbon County believes that selected land areas should be used for smaller, light industrial complexes in the vicinity of all communities in Carbon County.

Commercial

Visitor Industry

Anticipated Demand for Commercial Land

In 1996, a significant renovation was made of the Saratoga Inn in Saratoga. However, no new plans for accommodation facilities or significant facility expansions are known to be in progress at the time of this report.

In terms of visitor attractions, an ongoing proposal for a privately-owned and developed downhill ski area has been proposed for an area that is situated southwest of Encampment near Green Mountain. The proposed downhill ski facility site is located in portions of the following areas:

- Sections 1 and 2, Township 13N, Range 85 West, and,
- Sections 35 and 36, Township 14N, Range 85 West.

The stated objective of this proposed facility is to provide winter recreational opportunities for County and other Wyoming residents, as well as other winter visitors.

Carbon County believes that a private ski area would be desirable to help develop more winter recreation opportunities for visitors. Such development would bring greater economic viability to local accommodations and other retail services in the Encampment-Riverside-Saratoga area.

Recommended Areas for Commercial Expansion

Carbon County recommends that lands near Green Mountain be used for the potential development of a private downhill ski area.

Transportation

Anticipated Demand for Commercial Land

No short-term expansion of existing truck stops or the UP Railroad system are foreseen by industry representatives at the time of this report.

Some renovation of the Rip Griffin's Truck and Travel Center is expected sometime in the 1997-1998 period. However, such improvements will be made within the existing complex (Hone, 1997).

The Burns Brother's Travel Stop is considering plans to expand on private property that is adjacent to the existing truck stop complex. The expansion will include the construction of a larger store and restaurant facility (McLaine, 1997).

However, increased commercial truck traffic will eventually generate an increased demand for one or more truck stops along the I-80 corridor. Increased truck traffic along Interstate 80 will also generate a related demand for more motel and hotel facilities, as well as eating establishments, along the Interstate 80 corridor.

Increased local vehicular traffic on local State highways in the County may also encourage some future investment into commercial service stations, convenience stores, and other commercial facilities along these corridors.

Recommended Areas for Commercial Expansion

As interstate truck traffic increases along Interstate 80, the potential investment opportunity for additional truck stop development can be expected. Carbon County recommends that such development be located near existing vehicular exits along the Interstate 80 corridor.

Despite the potential long-term opportunities for the development of greater accommodations and eating establishments along the I-80 corridor, Carbon County recommends that future commercial facilities, other than truck stops, should be located within the commercial areas of existing communities that adjoin the Interstate 80 corridor. Otherwise, the potential economic benefits of these facilities are less likely to create and encourage indirect sales opportunities for local eating establishments and other retail services.

Carbon County recommends that highway business activities, e.g., service stations, convenience stores, and related facilities, along State highways should be located within a two mile radius of all municipal boundaries in Carbon County. Otherwise, the County will be plagued with a growing amount of unnecessary, strip development that will eventually impair scenic vistas and views for both residents and visitors.

Since eight of Carbon County's 10 communities have assumed no legal responsibility for zoning outside of their municipal boundaries, Carbon County recognizes the need for the County to work cooperatively on commercial land use proposals within two miles of a given municipality. Carbon County recommends that such collaboration would include, at least, regular consultation with municipal town councils and planning commissions concerning commercial land use proposals within a two-mile radius of any municipality in Carbon County.

LAND AND RESOURCE MANAGEMENT

General

The future management of lands and resources in Carbon County will impact the type and scope of future land uses in the County, as well as focus the direction and scope of future resource conservation efforts. Four federal agencies and three State agencies have administrative responsibility for almost 3.0 of the 5.1 million acres in Carbon County. The zoning of all privately-owned lands in the unincorporated areas is the responsibility of Carbon County. In this context, it is essential that a cooperative approach to future land management is required.

The eight governmental agencies that manage lands in Carbon County each has separate statutory authorities and regulatory mandates. These agencies report to different sets of public administrations and elected leaders. In turn, management objectives, orientation, and approach vary considerably.

In Chapter 8, the general responsibilities of the primary State and federal agencies that administer lands in Carbon County are briefly summarized. The discussion of these responsibilities focuses primarily on those responsibilities that are significant to the management of natural resources, economic activities, and land uses in Carbon County. The mandates associated with cooperative land management responsibilities are also identified. Recommendations that are aimed at fostering greater cooperation between State and federal agencies and Carbon County are highlighted in this executive summary.

Chapter 8 also addresses the relevant land and resource management activities that are carried out by County government. This evaluation and related recommendations are presented to help increase the effectiveness and efficiency of its land use management activities.

U.S. Forest Service

In the foreseeable future, it is apparent to Carbon County that there are, at least, four areas of coordination that are required to facilitate more meaningful local participation in land and resource management decisions of the U.S. Forest Service. The areas include, at least, the following:

- grazing permits and related grazing allotment plans,
- environmental assessments and impact statements associated with commercial timber sales, wilderness areas, fish and wildlife resources, water quality improvement projects, as well as other resource conservation and management projects,
- land exchanges, and,
- future amendments or revisions to the existing Forest Plan for the Medicine Bow-Routt National Forest.

The more specific conclusions and recommendations associated with the preceding types of USFS decisions are summarized in the following paragraphs.

Grazing Permits and Allotment Management Plans

Carbon County envisions no participation in the review of grazing permits or allotment management plans. However, the County believes that greater coordination should be made with grazing permittees. USFS should hold informal workshops with grazing permittees in Carbon County to help promote the maintenance of healthy rangelands in Carbon County. Such workshops should, at least, include the presentation and discussion of economical livestock management techniques, range improvements, and monitoring techniques.

Carbon County also believes that the State Conservation Districts, County Agricultural Extension Agent, and local Natural Resource Conservation Service representatives should take a more aggressive role to ensure that USFS grazing permit decisions are more effectively coordinated with livestock ranchers. Carbon County desires that these agencies will:

- Receive notices of proposed revisions to individual grazing permit stipulations, proposed allotment management plans, and proposed permit cancellations.
- Evaluate proposed modifications to existing grazing permits, allotment management plans associated with a new permit, or a proposed permit cancellation.
- If requested by a grazing permittee, discuss USFS proposals with a representative(s) of the affected ranch.
- If desired by a grazing permittee or the USFS, participate in a joint meeting between ranch representative(s), USFS, the County Extension Agent, the State Conservation District, and the local NRCS representative to discuss and mediate any unresolved issues.

If an acceptable decision cannot be reached for a given grazing permit, ranchers in Carbon County have the opportunity to use and participate in a state appeals process that is sponsored by the Wyoming Department of Agriculture. If future uses of the State-sponsored appeals process become ineffective, Carbon County should establish a local appeals process in cooperation with the U.S. Forest Service and the U.S. Bureau of Land Management.

Environmental Assessments and Impact Statements

The Board of County Commissioners will continue to review and respond to incoming environmental assessment and impact statement documents. The Board of County Commissioners may solicit technical support in these efforts. However, the Board of County Commissioners will remain as the primary point-of-contact with all federal agencies that operate in Carbon County.

Carbon County believes that a cooperative effort, between the U.S. Forest Service and Carbon County, should be made to determine more effective methods to evaluate potential economic impacts that are associated with proposed timber sales.

Land Exchanges

The Carbon County Department of Planning and Development will remain the point-of-contact for the U.S. Forest Service. It is also recommended that the Carbon County Planning Director meet with appropriate Forest Service personnel and the applicant(s) early in the exchange process to identify and discuss any potential rezoning or subdivision requirements.

Forest Plan Amendments and Revisions

In view of the significant deviation from the current Forest Plan, Carbon County requests the U.S. Forest Service to update its existing Forest Plan as soon as possible. In this process, Carbon County expects to become an active participant in all phases of the planning process associated with the Forest Plan update.

Carbon County also recommends that a technical advisory board be established that is comprised of selected State agency and county interests. Carbon County envisions that an effective use of the technical advisory board should include, at least, the following responsibilities:

- Review the objective, scope, and methodology of each primary planning task before data evaluations are undertaken by the U.S. Forest Service planning team.
- Review and recommend revisions to draft USFS evaluations that are completed for each primary planning task.
- Participate in the identification and recommendation of alternate plans that are associated with each primary planning task.
- Participate in public hearings and the assessment of community concerns, issues and priorities.

The Board of County Commissioners should assign, at least, one representative to participate in the collaborative planning process with the U.S. Forest Service. The representative should provide regular reports to the Board of County Commissioners, the Carbon County Planning Commission, and other County agencies. The County representative should, in turn, convey the cumulative concerns of Carbon County to the technical advisory board for consideration.

U.S. Bureau of Land Management

In the foreseeable future, it is apparent to Carbon County that there are, at least, five areas of coordination that are required to facilitate more meaningful local participation in land and resource management decisions of the U.S. Bureau of Land Management. The areas include, at least, the following:

1. grazing permits and related grazing allotment plans,
2. resource management decisions that impact vehicular road access,
3. cooperative resource management planning,
4. land exchanges,
5. environmental assessments and impact statements associated with all resource management decisions.

The more specific conclusions and recommendations associated with the preceding types of BLM decisions are summarized in the following paragraphs.

Grazing Permits and Allotment Management Plans

Carbon County envisions no participation in the review of grazing permits or allotment management plans. However, the County believes that greater coordination should be made with grazing permittees. BLM should hold informal workshops with grazing permittees in Carbon County to help promote the maintenance of healthy rangelands in Carbon County. Such workshops should, at least, include the presentation and discussion of economical livestock management techniques, range improvements, and monitoring techniques.

Carbon County also believes that the State Conservation Districts, County Agricultural Extension Agent, and local Natural Resource Conservation Service representatives should take a more aggressive role to ensure that BLM grazing permit decisions are more effectively coordinated with livestock ranchers. Carbon County desires that these agencies will:

- Receive notices of proposed revisions to individual grazing permit stipulations, proposed allotment management plans, and proposed permit cancellations.

- Evaluate proposed modifications to existing grazing permits, allotment management plans associated with a new permit, or a proposed permit cancellation.
- If requested by a grazing permittee, discuss BLM proposals with a representative(s) of the affected ranch.
- If desired by a grazing permittee or the BLM, participate in a joint meeting between ranch representative(s), BLM, the County Extension Agent, the State Conservation District, and the local NRCS representative to discuss and mediate any unresolved issues.

If an acceptable decision cannot be reached for a given grazing permit, ranchers in Carbon County have the opportunity to use and participate in a state appeals process that is sponsored by the Wyoming Department of Agriculture. If future uses of the State-sponsored appeals process become ineffective, Carbon County should establish a local appeals process in cooperation with the U.S. Bureau of Land Management and the U.S. Forest Service.

Resource Management Decisions that Impact Vehicular Road Access

The Carbon County Road and Bridge Department must continue to be kept aware of proposed oil and gas permits to drill.

The complexity of some resource management decisions may require BLM's consultation with the Carbon County Board of Commissioners prior to the preparation of an environmental assessment or impact statement.

Participation in Cooperative Resource Management Planning

Carbon County envisions that it will be invited to participate in selected facets of more specific BLM planning efforts. Such an approach will facilitate the cooperative use of available information and ensure a more substantive input by Carbon County into the future resource management plans.

Land Exchanges

Local ranchers and private landowners have for years promoted the exchange of public and private lands within various parts of Carbon County. These opportunities are especially evident in the "checkerboard" of public and private lands in Carbon County that lie approximately 20 miles north and south of the Union Pacific Railroad corridor. Various private landowners in Carbon County have encouraged and pursued land exchanges with BLM to enable a more efficient consolidation of ranch properties. Such consolidations would improve the cost-effectiveness of ranch operations and, in some cases, improve range health. BLM also believes that the reduction of lands that are interspersed between private and public land ownership will enhance future resource and land management programs of BLM.

Carbon County supports the implementation of future land exchanges in the County to enhance the economic viability of local ranches. To pursue this objective, Carbon County should develop a plan that identifies and assists potential land exchanges desired by private landowners within the County. Public involvement will always be an important criteria that will guide County decisions related to specific land exchange proposals.

Environmental Assessments and Impact Statements

Carbon County wishes to continue its receipt of these documents in order that it may provide constructive comments to future land and resource management proposals. The Board of County Commissioners will remain as the primary point-of-contact with BLM. However, Carbon County desires to have these documents transmitted to, at least, the following agencies:

- Board of County Commissioners,
- Carbon County Planning Commission, and,
- State Conservation Districts.

Wyoming Game and Fish Commission

General

There are three areas of coordination that are needed to facilitate more meaningful coordination of land and resource management decisions with Carbon County. These areas are:

1. The identification of resource management issues and related intra-agency comments regarding individual grazing, oil and gas, and mining permits.
2. The identification and/or distribution of other relevant information that is required to support County land and resource management.
3. The consolidation of Fish and Wildlife Management activities into one Wildlife Management Division in Carbon County.

Identification of Resource Management Issues and Recommended Best Management Practices

Through the performance of ongoing field research, biologists from the Game and Fish Department are generally aware of ever-changing trends in fish and wildlife habitat, herd and fish populations, and environmental stresses that impact fish and wildlife in Carbon County. Carbon County believes that this information needs to be periodically conveyed to the Carbon County Planning Commission and Board of County Commissioners.

The Game and Fish Department will desirably make annual presentations concerning the health of fish and wildlife populations and their habitat. In addition, the Department should also be prepared to recommend specific best management practices that can be applied to address specific resource management issues. In the absence of this information, it is extremely difficult for Carbon County to incorporate consideration of resource management issues into applications for rezoning, subdivisions, and special use permits.

At the same time, coordination with the Game and Fish Department should be a “two-way street”. The Carbon County Department of Planning and Development will continue to provide notices to the State Game and Fish Department for any proposed rezoning, subdivision, and special use permit applications. This coordination will enable Game and Fish to provide constructive comments and recommendations concerning projects that may impact fish and wildlife habitat in Carbon County.

Identification and Distribution of Other Relevant Information to Enhance Local Resource Management

Aside from regular annual presentations by local biologists, Carbon County encourages the Game and Fish Department to transmit other available information. If Carbon County's future land management decisions are to incorporate the consideration of crucial winter range and severe winter relief areas, it is essential that seasonal wildlife range maps are periodically reviewed and updated.

Carbon County recommends that the State Game and Fish Department should:

- Continue to review seasonal wildlife range maps on an annual basis following surveys of existing habitat management areas.
- Revise seasonal range maps when survey data and changes in environmental conditions dictate a modification in seasonal range boundaries.
- Coordinate any changes in seasonal range maps with the Carbon County Planning Commission and residents of Carbon County.
- Transmit any updates to seasonal wildlife ranges for big game animals to the Carbon County Planning Commission in hardcopy and digital form.

Between 1990 and 1996, the State Game and Fish Department prepared and adopted approximately 60 habitat extension bulletins. These bulletins outline specific resource management objectives, habitat requirements, and concise best management practices that are applicable to local ranches, other agricultural areas, and residential areas. In terms of resource management, the potential application of these practices offers a practical resource conservation opportunity that could constructively impact future land uses.

While these documents provide extremely useful and practical information, this information is not promoted or distributed within Carbon County unless requested. Carbon County encourages the Game and Fish Department to more aggressively pursue the distribution of this practical information to Carbon County residents.

Carbon County recommends that the Game and Fish Department hold a series of winter educational presentations at various locations in the County. The meetings could be co-sponsored by local conservation districts to encourage greater participation. During these meetings, Game and Fish representatives could make a presentation of selected best management practices and distribute selected habitat extension bulletins. Residents could be provided with the opportunity to ask more specific questions, or request onsite technical assistance.

Consolidation of Fish and Wildlife Management Activities into One Wildlife Management Division in Carbon County

In order to enhance the general public's accessibility to Game and Fish Department services and personnel, Carbon County recommends that State Game and Fish Department consolidate its Carbon County activities into one Fish and Wildlife Management Division. Carbon County recommends that this division be located in Carbon County. The location of Game and Fish personnel within the County will also facilitate future coordination with Carbon County, as well as the delivery of services to the general public.

Carbon County also recommends that the Governor appoint one State Game and Fish Commissioner to represent Carbon County. Carbon County provides a significant source of license fees to the State Game and Fish Commission because of the extensive use of the County for recreational hunting. Management issues and the level of recreational participation warrant a greater representation of Carbon County.

STATE CONSERVATION DISTRICTS

There are five areas of coordination that are needed to facilitate more meaningful coordination of land and resource management decisions with Carbon County. These areas include the following:

1. Federal agency coordination of grazing permit actions with State Conservation Districts.
2. Watershed planning.
3. Technical assistance to new landowners in Carbon County.
4. Cooperative efforts to review future land and resource management proposals by federal agencies.
5. Continued monitoring of surface water quality and coordination of relevant issues.

Coordination of Grazing Permit Actions

Carbon County also believes that the State Conservation Districts, County Agricultural Extension Agent, and local Natural Resource Conservation Service representatives should take a more aggressive role to ensure that BLM and USFS grazing permit decisions are more effectively coordinated with livestock ranchers. Carbon County desires that the State Conservation Districts will:

- receive notices of proposed revisions to individual grazing permit stipulations, proposed allotment management plans, and proposed permit cancellations;
- evaluate proposed modifications to existing grazing permits, allotment management plans associated with a new permit, or a proposed permit cancellation.

- if requested by a grazing permittee, discuss BLM and USFS proposals with a representative(s) of the affected ranch; and,
- if desired by a grazing permittee, BLM, or the USFS, participate in a joint meeting between ranch representative(s), BLM, the County Extension Agent, the State Conservation District, and the local NRCS representative to discuss and mediate any unresolved issues.

Watershed Planning

Carbon County needs to be a participant in the development of future watershed plans for each conservation district. The Conservation Districts and Carbon County will benefit if these plans are consistent with the County Land Use Plan. Further, there will be planning issues identified in the watershed plans that will likely involve some supportive actions by the County Planning Commission and the Board of County Commissioners.

After these plans are completed and adopted by each of three Conservation Districts in Carbon County, the County will review the content of the watershed plans from each District, share any potential concerns, and recommend possible revisions to the plans. Assuming that the revised plans are acceptable to the County, the County Planning Commission and Board of Commissioners will adopt a resolution that indicates that the watershed plans are a more detailed expression of resource management plans of Carbon County.

Technical Assistance to New Landowners in the County

As the population of Carbon County changes, there will be an increased influx of new landowners with considerably less knowledge of agriculture and rural living. It is important that the County Department of Planning and Development cooperate with the Conservation Districts to advise new landowners of potential land use constraints and resource conservation opportunities.

Cooperative Efforts to Review Future Land and Resource Management Proposals by Federal Agencies

It is also expected that federal agencies such as BLM and the U.S. Forest Service will continue to examine and propose future changes regarding how federal lands can be used by ranchers, other residents of Carbon County, and industries that are based in Carbon County. Carbon County views that its input to these decisions should be made in cooperation with district supervisors and technical staff from the three Conservation Districts in Carbon County.

Continued Monitoring of Surface Water Quality and Coordination of Relevant Issues

The State Conservation Districts should continue its long-term monitoring of surface water quality from selected water bodies in the County. As data is evaluated, the Board of County Commissioners desires that the Districts share relevant findings, and present important water quality issues to Carbon County.

Carbon County Planning Commission

General

The Carbon County Planning Commission serves at the pleasure of the Carbon County Board of Commissioners. The commission includes five volunteer members. At least three of its members must reside in the unincorporated area of Carbon County. The remaining members can reside in municipalities in the County.

The Planning Commission is supported by staff that administers zoning matters and performs regional planning activities on a day-to-day basis.

The authority for planning and zoning in Carbon County is actually vested in the Board of County Commissioners which, for the most part, reviews and considers recommendations from the County Planning Commission. The planning and zoning authority that is granted to the Board of County Commissioners is outlined in Title 18, Chapter 5 of the Wyoming Statutes. This statute generally provides the following powers and duties:

- enforce zoning resolutions to restrict and control the use of lands in unincorporated areas of the County;
- adopt recommendations that temporarily freeze building and land uses in unincorporated areas of the County without public notice and hearings;
- review and process subdivision applications; and,
- adopt or amend a comprehensive plan that may be prepared by the Planning Commission after, at least, one public hearing.

The administration of existing land use zoning in Carbon County is authorized and guided by Carbon County's Zoning Resolution. of 1972. A resolution for land use zoning was adopted since Wyoming counties are not authorized to establish local ordinances.

The use of zoning by Carbon County will continue to be the primary implementation tool associated with land management of the unincorporated areas of the County. Performance standards will continue to be used in conjunction with stipulations that are required by the County Planning Commission for special use permits and rezoning proposals.

Residential Land Uses in RAM Districts

All lands in the County were initially zoned Ranch-Agricultural-Mining (RAM) in 1971 when the original County zoning resolution was adopted. If proposed land uses were different than those permitted under the RAM District, an applicant would seek approval for a proposed rezone to another, more appropriate zoning designation.

Between 1972 and 1996, various planning directors and technical staff have supported the activities of the Carbon County Planning Commission. Similarly, members of the Planning and Commission have changed over this period. Different Commission members and staff have brought differing views and interpretations concerning this zoning designation.

More recently, the County Planning Commission has interpreted that a single-family residence is not permitted in the RAM district unless it supports commercial ranching, agriculture, or mining activities. This interpretation is consistent with specific permitted uses outlined in the 1972 Zoning Resolution.

The gradual influx of new residents to Carbon County and changing lifestyles are generating increased demand for residential uses on abandoned or marginal rangelands in various parts of the Carbon County. Undeveloped rural properties continue to be an aspiration of many homebuyers. However, most of these buyers seek a rural lifestyle that is not accompanied by a commercial ranching or agricultural operation. As a result, the Carbon County Department of Planning and Development is processing a growing number of rezone applications that propose to change an existing RAM designation to Residential (RD).

Livestock Uses

One of the important objectives and functions of zoning is to provide reasonable expectations to prospective buyers, adjoining landowners, and other residents concerning how a given property or land area in the County can and will be used in the future. For example, most prospective buyers of real estate in the County would not seek to buy a property and build a home immediately adjacent to a large industrial complex.

Many of the incoming buyers of property are coming from more urbanized communities in North America. Where zoning is used, a “residential” designation usually suggests an area where single family and duplex residential facilities may be constructed. Residential-zoned areas typically do not include non-commercial livestock uses, e.g., pigs, that frequently are viewed as unacceptable to many urban residents.

It is recommended that an amendment to the 1972 Zoning Resolution be made to clarify the use of livestock in residential, ranch-agricultural-mining districts, and other zoning districts. Such an amendment may require the modification of existing permitted use definitions, the potential establishment of another zoning designation, or other types of amendments.

Special Permit Uses

Various special permit uses allowed in the Residential District reflect the types of land uses that, in some cases, may generate future land use conflicts, e.g., increased noise, traffic. The generation of potential land use conflicts may be diminished through the establishment of a new “Public or Community Facilities” zoning designation. This zoning designation would generally permit hospitals, day care centers, schools, recreational areas, airports, and facilities associated with public utilities.

Semantics Associated with the 1972 Zoning Resolution

The 1972 Zoning Resolution represents an effective tool for zoning administration in Carbon County. However, the semantics used in the Zoning Resolution are now 25 years old and need to be revised to better reflect existing and potential land uses. This minor modification will only increase the usefulness of the Zoning Resolution in future years.

Need to Amend the 1972 Zoning Resolution

In view of the preceding issues, the County Planning Commission will make a detailed review of the 1972 Zoning Resolution and prepare a set of recommended amendments for review by the general public and the Board of County Commissioners. Proposed amendments may include the incorporation of new zoning districts for “Rural Living”, “Public or Community Facilities”, and others.

Division of Larger Land Tracts

The division of larger properties in Carbon County is becoming more prevalent. The increase is a reflection of various factors.

Some larger ranches are selling portions of their privately-owned lands. A sizeable number of ranches also continue to be divided.

Carbon County’s primary concern relates to changes in land uses on parcels that are greater than 35 acres in size. The formation of these larger land tract divisions may be exempt from review by Carbon County.

Public inquiries from across the United States confirm the demand for rural, undeveloped properties for residential uses and non-commercial agricultural activities. At the same time, it is anticipated that remote “lone wolf” subdivisions will generate increased public demands for County and State services, e.g., road maintenance and schools, as these areas become more developed and populated.

Such demands will increase the cost of public services that are provided by County and State agencies. Unfortunately, increased demands for public services will not be countered by a proportional increase in County governmental revenues unless the incoming residential population is accompanied with increased industrial growth and/or new primary employers in the Carbon County economy.

Unless Carbon County has the statutory authority to address the potential impacts associated with these divisions, future land uses in Carbon County will only follow consumer demand and price. Carbon County supports changes in State statutes that would enable county government to review all new land divisions in Carbon County. Without changes in State statutes, future land splits in Carbon County will likely scatter low-density residential development to some remote areas in the County that are not suitable for future residential development. Such development pattern will likely generate, at least, the following consequences:

- increase the scope and cost of public services,
- create potential vehicular access conflicts,
- impose undesirable impacts upon public lands,
- increase the cost of electrical power services from private utilities,
- encourage new residential development in areas that may be unsuitable for residential development, e.g., lack of adequate groundwater supplies,
- decrease scenic views in unincorporated areas of the County, and,
- generate potential impacts upon wildlife.

Carbon County shall encourage future residential development of larger land tracts that are in the immediate vicinity of the 10 municipalities in Carbon County. This approach will enable local municipalities to gain a greater number of connections to municipal water and sewer services that can help sustain long-term operation and maintenance, as well as occasional system expansions.

Conservation of Irrigated Lands

The future use of lands in Carbon County is dependent upon the availability of future water resources. Irrigated agricultural lands are located in significant portions of the Upper North Platte River Basin and the Little Snake River Basin. Ongoing agricultural activities ensure that adjudicated diversions and authorized water consumption will remain. However, the amount of available surface water supplies can reduce significantly with future changes in land use. For example, if a ranch with some 500 irrigated acres of land is developed for a residential subdivision, the State Engineer's Office will likely reduce authorized consumption to approximately 40 percent of its previous allocation for agricultural purposes. A reduction or elimination of water applications to the soils of former irrigated agricultural lands, as well as the discontinued use of existing water diversion systems, will:

- reduce soil saturation,
- reduce return flows to existing rivers and tributaries,
- significantly impact the quality and amount of forage available for big game animals,
- eliminate some wetlands and reservoirs that provide valuable wildlife habitat,
- reduce or degrade aquatic habitat in the Little Snake River, North Platte River, and their tributaries, and,
- gradually erode Carbon County's agricultural economic sector.

Carbon County desires to conserve its irrigated lands and should evaluate future options for the conservation of irrigated lands in the Little Snake River and Upper North Platte River basins. The review of potential options should be made in close coordination with local water appropriators, the State Engineer's Office, and the State Conservation Districts.

Building Codes

The County Planning Commission believes that steps should be made to ensure the long-term quality of construction in Carbon County. In order to pursue this objective, the Planning Commission desires to adopt a set of relevant building, electrical, plumbing, and HVAC standards that can be used and followed by building contractors and owner-builders.

The City of Rawlins and the Town of Saratoga have prepared such standards for the same purpose. The Planning Commission desires to adopt these standards that will provide a guide to future development. Such standards will provide guidance that is frequently requested by both contractors and local residents.

The enforcement of local building codes cannot be accomplished without the establishment of a related building inspection process. Since operational funds are limited, the County Planning Commission initially will seek public compliance with any adopted building standards on a voluntary basis. Should future random inspections suggest that this approach is not practical, other enforcement measures will be evaluated.

Geographical Information System for Carbon County

The Carbon County Planning Commission developed a geographical information system (GIS) for Carbon County during the preparation of the Land Use Plan. The GIS was established using ArcView 3.0 software, which is manufactured by ESRI. ArcView is a popular, simplified version of the well-known ArcInfo software.

Geographical information systems have become increasingly valuable to regional land use planning efforts. GIS enables users to visually correlate various coverages, or layers of digital information; store, retrieve, and filter selected information from databases; and the evaluate development alternatives. A variety of other applications continue to be made by various software manufacturers such as ESRI.

In order to ensure the availability of this valuable planning tool, financial resources will need to be allocated by the Board of County Commissioners to ensure the long-term maintenance, update, and application of the software. Future expenditures are required to support labor, training, hardware, supplies, and other direct costs.

There are a few options that Carbon County should consider:

- establish and maintain in-house capabilities, hardware, and software to operate and maintain a GIS for Carbon County,
- retain a locally-based consulting firm to maintain and update a GIS for Carbon County, and,
- establish a shared GIS system between locally-based industries and Carbon County.

Establish and Maintain In-House Capabilities

One option will be for the County to establish and maintain in-house labor capabilities, software, hardware, and printing equipment. ArcView and other GIS software is primarily being developed by private enterprise in the United States. This development of GIS is changing rapidly and significant changes are occurring in the design and use of GIS software. Another version of ArcView, ArcView 4.0, is presently being designed; a technical committee for a subsequent version has already been designated by ESRI (Varner, 1997).

In the face of rapid changes, Carbon County would be faced with the cost for labor, frequent training, and frequent changes in software and hardware. However, these costs would be countered by access to GIS mapping products that have already been completed by the U.S. Bureau of Land Management. BLM recently offered to share digital information with Carbon County.

Retain Local Consulting Services

A second option is for Carbon County to retain the services of a locally-based consulting firm to provide GIS services. The day-to-day use of a GIS by Carbon County will be limited. However, significant planning issues will periodically arise that will prompt the use of their GIS system. These uses will be irregular in nature. Consequently, it may be practical to employ the services of a firm that already has ArcView software and is willing to provide occasional services on an hourly basis. It is also important that the consultant firm be situated within Carbon County to facilitate the coordination of periodic information and mapping requests.

Establish and Share a GIS for Industry and Carbon County

The Carbon County Coalition recently recommended the establishment of a GIS that would be financed and shared by locally-based industries and Carbon County. The financial participation of industry would enable Carbon County to reduce its annual expenditures into maintenance and use of the system.

At the same time, the shared use of the system by industry and Carbon County would require the GIS to be adaptable to varying information requirements. This approach would require some detailed discussions with representatives of the timber, mining, ranching, as well as oil and gas industries to determine, at least, the following:

- potential levels of interest,
- potential financial commitments of available labor, computer hardware, software, and printer equipment,
- type, scale, and level of accuracy associated with desired information,
- frequency of information needs, and,
- desired operating policies associated with the distribution of public and proprietary information.

The use of a locally-based consulting firm might also facilitate the maintenance and access to a shared GIS for Carbon County and local industries in Carbon County. Under this concept, a selected representative, or consultant, could report to a committee that represents all interested parties.

Future Revisions to the Carbon County Land Use Plan

The Carbon County Land Use Plan will need to be periodically updated approximately every five years to:

- Keep abreast of significant changes in the environment, economy, land uses, resident population, and infrastructure that may impact future land and resource management activities of Carbon County.
- Adjust, if necessary, the focus for future land and resource management activities, as well as related coordination with appropriate State and federal agencies,
- Provide a technical basis for the evaluation of future rezoning and subdivision requests.
- Guide the County's evaluation and support of future economic development opportunities.
- Keep Carbon County residents abreast of pertinent information and provide continued opportunities for input into future land and resource management activities.

Carbon County envisions that these revisions will be accomplished via staff and/or consulting support.

Land use plans are of little use unless they are applied to the County's land use and resource management activities. Planning Commission members and staff support understandably change. However, Carbon County should exert every effort to sustain existing industries with a specific focus for future land and resource management.